

## Gender Analysis of Food Use of Cassava by Small Scale Farmers in Edo State, Nigeria

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### Abstract

The research made a gender analysis of the food use of cassava by small scale farmers in Edo State. Three local government areas of the state, 9 villages and 270 respondents were selected through a two stage sampling technique. Descriptive statistics was employed for data analysis. The socio-economic characteristics of the farmers showed that 72% of females between the ages of 20 – 39 are involved in cassava farming over their male counterparts (54%), while at the age bracket 40 – 49; males are more involved in farming (45%) against females (27%). More males attained formal education (95%) as against 71% of the females, and only 29% of the females owned between 6 – 10 hectares of land as against 62% of the males. Further findings show that 34% of males as against 29% of females made use of cassava foods in their daily food needs. The study concludes that male small scale farmers in the state have greater opportunity of increasing their agricultural outputs over the females, as well as attaining more formal education than females. Females between the ages 20 – 39 were more involved in cassava farming while more males made use of cassava food products in their daily food needs. It is recommended that land use laws and culture of the area on land ownership that disadvantaged females should be revisited so as to grant equal opportunities to both genders to express their potentials in the area of agricultural productivity and output. Also, the state government should review some of its policies on education, placing more emphasis on girl-child education to reduce disparity in the access and attainment of formal education for both genders as well as providing incentives/grant credit facilities to agricultural ventures to attract more young males between the ages of 20 – 39 to take to farming as a means of livelihood and self sustenance. This will ensure that the youthful vigor at this age is harnessed in increasing food output that will help in reducing the looming food insecurity in the county.

**Keywords:** Gender, Cassava, Small Scale Farmers, Edo, Nigeria.

### 1. Introduction

Nigeria is an agrarian society with about 70% of her over 140 million population engaged in agricultural production (CBN, 2006). Agriculture is the most assured engine of growth and development and or reliable key to industrialization. Cassava is a very important staple food consumed in different forms by millions of Nigerians. Cassava roots are rich in energy, containing mainly starch and soluble carbohydrates, but are poor in protein. Cassava is a crop of the low income population, and occupies mainly agriculturally mineral environments. The crop has continually played very vital roles, which includes income for farmers, low cost food source for both the rural and urban dwellers as well as household food security (Nweke, 1996). In Nigeria, cassava is generally believed to be cultivated by small scale farmers with low resources (Ezebuio *et al.*, 2008). It also plays a major role in the effort to alleviate the food crisis in Africa, the Food and Agricultural Organization of the United Nations (FAO, 2004) estimated cassava production in Nigeria as at 2002 to be 34 million tones.

Presently, the amount of food available per person on a global basis is 18% higher than 30 years ago. Most developing countries benefit from this development which has resulted to a tremendous improvement in their nutrition. As impressive as this improvement is, about 800 million people worldwide still suffer from chronic hunger; and one quarter of this population resides in Africa. The situation gets worse every year and can lead to a catastrophe if it is not possible to increase the food supply at a rate faster than that at which the world population increases (Knirsch, 1996). The economic importance of cassava in bridging the cap of hunger in the world and providing food for the increasing population calls for urgent attention to increase its production.

Cassava is the chief source of dietary food energy for the majority of the people living in the lowland tropics, and much of the sub-humid tropics of West and Central Africa (Tsegai *et al.*, 2002). Therefore, its production and utilization must be given prime attention in food policy. Even though farmers have not yet attained the desired technical efficiency in cassava production as a result of weak access to external inputs such as fertilizers and herbicides (Ezedinma *et al.*, 2006), the wide scale adoption of high yielding varieties and the resultant increase in yield have shifted the problem of production (supply) to demand issues, such as finding new uses and markets for it. The government of Nigeria should consider a transition from the present status of usage to the level of industrial raw material and livestock feed as a development goal that can spur growth with increase in employment. This consideration underscores the various research and policy initiatives in cassava improvement, production, processing and utilization.

The popularity of cassava utilization in Nigeria is as a result of its inherent characteristics of tolerance to extreme stress conditions, low production resource requirements, biological efficiency in the production of food energy, availability throughout the year and its stability for farming systems (Kormawa *et al.*, 2003).

Like other foods, cassava also has anti-nutritional and toxic factors. Of particular concern are the cyanogenic glucosides of cassava (linamarin and lotaustralin). This hydrolysis, releases hydrocyanic acid (HCN) which is harmful. The presence of cyanide in cassava is of concern to human and animal consumption. The concentration of these anti-nutritional and unsafe glycosides varies considerably between varieties and also with climatic and cultural conditions. Selection of cassava species to be grown, therefore, is quite important. Once harvested, cassava must be treated and prepared properly prior to human or animal consumption.

Estimates of industrial cassava use in Nigeria suggest that approximately 16 percent of cassava root production was utilized as chips in animal feed, 5 percent was processed into a syrup concentrate for soft drinks and less than 1 percent was processed into high quality cassava flour used in biscuits and confectionery, dextrin, adhesives, starch, and hydrolysates for pharmaceuticals and seasonings (Ene, 1992). At present, a wide range of traditional cassava forms (such as *gari*, *fufu*, starch, *lafun*, *abacha*, etc) are produced for human consumption (Kormawa *et al.*, 2003). In view of the renewed emphasis on cassava production (supply), processing and utilization in Nigeria, it becomes necessary to assess the production, demand and utilization patterns of cassava, and its prospects especially in combating hunger and raising food security among vulnerable groups including women and infants.

**Table 1: Frequency of Daily Cassava Consumption in Some States in Nigeria**

States	1 – 2 times	3 – 4 times	>4 times
Osun	29%	36%	33%
Akwa Ibom	29%	36%	33%
Bayelsa	21%	15%	51%
Edo	21%	25%	53%
Imo	24%	21%	43%
Kaduna	77%	18%	4%
Kano	57%	37%	4%
Kebbi	84%	15%	0%
Kwara	27%	38%	35%
Nassarawa	57%	28%	13%
Borno	65%	28%	4%
Taraba	37%	25%	33%

Source: IFAD (2004)

Cassava is important, not only as a food crop but even more so as a major source of income for rural households. Nigeria is currently the largest producer of cassava in the world with an annual production of over 34 million tonnes of tuberous roots. Cassava is largely consumed in many processed forms in Nigeria. Its use in the industry and livestock feed, is well known, but is gradually increasing, especially as import substitution becomes prominent in the industrial sector of the economy. As a cash crop, cassava generates cash income for the largest number of households in comparison with other staples. It is produced with relevant purchased inputs as frequently as and in some cases more frequently than other staples. A large proportion of total production, probably larger than that of most staples, is planted annually for sale.

As a food crop, cassava has some inherent characteristics which make it attractive, especially to the smallholder farmers in Nigeria. First, it is rich in carbohydrates especially starch and consequently has a multiplicity of end use. Secondly, it is available all year round, making it preferable to other, more seasonal crops such as grains, peas and beans and other crops for food security. Compared to grains, cassava is more tolerant of low soil fertility and more resistant to drought, pests and diseases.

Cassava is consumed in Nigeria in different forms and the different pattern of consumption runs across the whole regions of the country. The table below represents the consumption patterns of various food products of cassava in the different regions of the country. The table depicts the popularity of cassava food product in Nigeria. Most popular among the food product across the regions is *Garri*. Tsegai *et al* (2002) agrees that cassava is an excellent source of dietary energy, and it smacks of short-sightedness to consider cassava solely a subsistence food crop.

**Table 2: Consumption Pattern of Cassava Food Products in Nigeria by Regions**

Regions	Pattern of Consumption
South South	Gari Akpu/Fufu
South West	Gari, Lafun, Akpu/Fufu
South East	Gari, Fufu, Akpu
North Central	Gari, Fufu, Starch
North East	Gari, Fufu, Akpu, Abacha

Source: Kormawa and Akoroda (2003)

This study therefore made a gender analysis of the food use of cassava among small scale farmers in Edo state of Nigeria with the view to identifying the socioeconomic characteristics of the small scale farmers, determine the gender variation in the use of various food products of cassava, and determine the daily frequency use of various food products of cassava in the study area

### 3. MATERIAL AND METHODS

#### 3.1 The study Area

The study is conducted in Edo state of Nigeria. The state is located in the South South geo Political Zone of the country. The State is an inland state in central southern Nigeria. Its capital is Benin City. It is bounded in the north and east by Kogi State, in the south by Delta State and in the west by Ondo State.

The state lie between 6°30'N and 6°00'E, has a land mass of 17,802 km<sup>2</sup> (6,873 sq mi) and a population of 3,218,332 (NPC, 2006). The major first languages spoken in the state are Ebira, Edo, Esan and Okpamheri. Edo State is home to several ethnicities, among them the Bini, Esan, Afemai, Emai and Ijaw. The state has three senatorial districts and eighteen local government authorities (Akoko Edo, Egor, Esan North-East, Esan Central, Esan South-East, Esan West, Etsako Central, Etsako East, Etsako West, Igueben, Ikpoba Okha, Oredo, Orhionmwon, Ovia North-East, Ovia South-West, Owan East, Owan West, and Uhumwonde).

Tourist attractions in Edo State include the Emotan statue in Benin City, Ise Lake and River Niger beach in Agenebode, Etsako-East; Ambrose Alli Square, Ekpoma, River Niger beaches at Ilushi, BFFM building at Ewu, College of Agriculture and Aqua Culture Technology, Agenebode, Okpekpe with its hills and scenes and the Somorika hills in Akoko Edo, where the government-run tourist center at Ososo is set among spectacular sceneries. The state produces crude oil (Osaghae, 1998). The major crops grown in the state include; oil palm, maize, cassava, plantain, banana, orange, and yam.

#### 3.2 Sampling Technique and Sample Size

Three stage sampling technique was used to draw sample of 270 respondents from the three Local Governments. The first stage involved the purposive selection of three Local Government Areas in the state based on their level of cassava production. In the second stage, three villages were randomly selected from each of the Local Government Areas while in the last stage thirty farmers (15 males and females each) were selected from each village. The equal selection of men and women in each village is to ensure equal representation of both genders in data analysis.

**Table 3: Distribution of Respondents by Local Government Areas and Villages involved in the study**

LGA's	Villages	No. of Respondents	Total
Esan North East	Efandion	30	90
	Awo	30	
	Idumoza	30	
Esan West	Akahia	30	90
	Ehalen	30	
	Ebute	30	
Ovia North East	Ugbogiobo	30	90
	Evboneka	30	
	Iyowa	30	
<b>Total</b>		<b>270</b>	<b>270</b>

#### 3.3 Method of Data Collection and Analysis

Primary data was collected with the use of structured questionnaires and personal interviews. Secondary information used in the study was obtained from the Local's Governments websites, review of related literatures and academic journals. Data was analyzed with descriptive statistics.

## 4. Results and Discussions

### 4.1 Analysis of the Socioeconomic Characteristics of Small scale Farmers in the study area

The table 4 shows that 72% of females between the ages of 20 – 39 years are more involved in small scale farming compared to their male counterparts with 54%. This could be collaborated with the notion that at this age range the males are more interested and involved in ventures that can bring quick returns in money terms and so engage in trading and other businesses more readily than farming. Omokore, *et al* ( 2006) reported in their study that about 72% of the respondents were females while 28.33% were males. The study explained that the wild gap observed could be probably because males in the study area were engaged in other ventures like carpentry, bus/taxi driving, petty trading and engagement as labourers in construction work Olayemi and Ikpi (1995) opined that women are invisible workforce and backbone of both family and national development but are unacknowledged. In contrary, Adewale *et al.* (2003) reported that gender is not a barrier to gender participation in agricultural activities. Education attainment shows that about 95% of the males had formal education as against the females with about 71%. This could be attributed in the in cultural inherent reasoning that females should form part of the family labour while their male counterparts who are consider significant should go to school and acquire the knowledge to develop the community. The level of farm size depicts the disparity between males and females in landed property acquisition amongst small scale farmers. About 29% of the females had between 6 – 10 hectares of land as against 62% of the male counterparts. This could be attributed in the cultural practice in the state the females do not inherit land.

### 4.2 Gender Variations in the Use of Various Food Products of Cassava in the study area

Table 5 shows the variance in the use of cassava food products by the different gender. Variations observed in the gender use of the various foods of cassava confirm the belief that males prefer more of carbohydrates than women. This is so because for small scale farmers it is assumed that males involve more in energy taking farm exercise and activities as compared to the female counterpart. Females are perceived by the society to be fragile and this perception imposes on them to accept activities and routines that are not strenuous. The perceived fragility forms their character with regards to the kind of food, task and responsibilities they take and or undertake.

### 4.3 Frequency of Daily Use of Food Products of Cassava by Gender

Table 6 shows the daily frequency of Cassava food intake in the villages considered. The table reveals that on the average, 36% , 39% and 27% of males take Cassava food products 1 – 2, 3-4 and above 4 times daily. The females on the average take 40%, 28% and 19% in the same order daily. This result confirms the findings of IFAD (2004) on the increasing frequency of the daily use of cassava food products in Nigeria. The average daily intake of cassava foods shows that 34% of males and 29% of females use cassava food, though females take cassava foods 1- 2 times daily more than males. The implication of this is that men will invest more income on cassava foods and probably preserve more energy than women in the study area.

## 5. Conclusions

Based on findings, the following conclusions were made;

1. Male small scale farmers in the state have greater opportunity of increasing their agricultural outputs over the females.
2. Males had more opportunity in attaining formal education than females.
3. Females are more involved in farming between the ages of 20 – 39
4. More males make use of cassava food products in their daily food needs than females.

## 6. Recommendations

The following recommendations were made;

1. Land use laws and culture of the areas that disadvantage the females in land ownership should be revisited so as o grant relative equal opportunities for both genders to express their potentials in the area of agricultural output and productivity.
2. The state government should review some of its policies on education with more emphasis on girl-child education to clear the areas of disparity in the attainment of formal education between the genders.
3. State Government should create incentives and grant credit facilities to agricultural ventures to attract more of the young males between the ages of 20 – 39 to venture into farming as a means of livelihood and self sustenance. This will ensure that the youthful vigor of this age will be harnessed in increasing food output which will help in reducing the looming food insecurity in the county.

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**Table 4: Analysis of the Socioeconomic Characteristics of Small scale Farmers in the study area**

Characteristics	Male		Female	
	F(N=135)	%	F(N=135)	%
<b>Age (Years)</b>				
20 – 29	23	17.04	56	41.48
30 – 39	50	37.04	42	31.11
40 – 49	47	34.81	30	22.22
50 – 59	15	11.11	7	5.19
>60				
<b>Educational Level (Years)</b>				
No Formal Education	8	5.93	37	27.42
Primary	48	35.55	60	44.44
Secondary	61	45.19	32	23.70
Tertiary education	18	13.33	6	4.44
<b>Farming Experience (Years)</b>				
0 – 4	23	17.04	10	7.41
5 – 9	37	27.41	40	29.63
10 – 15	58	42.96	64	47.41
>16	17	12.59	21	15.55
<b>Family Size (Number)</b>				
0 - 4	66	48.89	70	51.86
5 - 9	58	42.96	61	45.18
10 – 14	11	8.15	4	2.96
>15	0	0		
<b>Income Level (N,000/pm)</b>				
10, 000 – 19, 000	19	14.07	12	8.89
20, 000 – 29, 000	57	42.23	69	51.11
30, 000 – 39, 000	48	35.55	36	26.66
>40, 000	11	8.15	18	13.34
<b>Farm Size (Ha)</b>				
1 – 5	35	25.93	95	70.37
6 – 10	85	62.96	40	29.63
11 – 15	15	11.11	0	0

Field Survey, 2014

**Table 5: Gender Variation in the Use of Various Food Products of Cassava in the study area**

Food Products	Male	Female
	(N = 135)	(N=135)
Eba	65%	86%
Fufu	95%	69%
Tapioka ( <i>Abacha</i> )	65%	51%
Cassava Bread	25%	31%
Garri ( <i>Soaked in Water</i> )	46%	32%

Source: Field Survey, 2014

**Table 6: Frequency of Daily Use of Food Products of Cassava by Gender**

LGA's	Male (N = 15)			Female (N =15)		
	1 -2 times	3 – 4 times	>4 times	1 -2 times	3 – 4 times	>4 times
Akahia	33%	41%	26%	41%	29%	14%
Awo	27%	51%	22%	38%	31%	17%
Ebute	36%	30%	34%	38%	26%	18%
Efandion	40%	43%	32%	31%	25%	24%
Ehalen	40%	36%	29%	41%	27%	21%
Evboneka	38%	41%	21%	45%	31%	20%
Idumoza	33%	39%	28%	38%	30%	24%
Iyowa	39%	35%	27%	42%	29%	14%
Ugbogiobo	41%	34%	25%	45%	26%	21%

Source: Field Survey, 2014